

ABSTRACT

Flame retardant urethane compositions of this invention are produced by reacting a urea and/or urea condensate, a bio based compound and a polyisocyanate. The urea condensation compositions are produced by heating urea or heating urea to produce isocyanic acid and/or cyanic acid which reacts with urea to form urea condensates. The bio based compound are environmentally friendly, replaceable compound such as vegetable oils, molasses, sugar, lignin and hemi-cellulose. The urea and/or urea condensation compounds may be mixed with or reacted with carbonization auxiliaries. For example, polyurethane foams can be rendered less flammable with urea and/or urea condensation compounds and utilized as insulating and sound proofing materials.